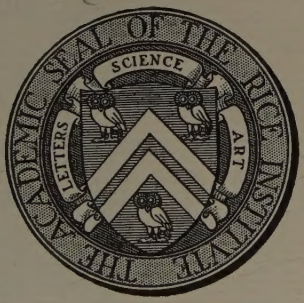
A3
3b
W43
Vol. 19

THE RICE INSTITUTE PAMPHLET

252

VOLUME NINETEEN

Rice University studies



30 Aug 68

Published by

THE RICE INSTITUTE

A university of liberal and technical learning founded by William Marsh Rice in the City of Houston, Texas, and dedicated by him to the advancement of Letters, Science, and Art

CONTENTS

Volume XIX

No. 1. JANUARY, 1932

PAGE

ELEMENTS OF THE THEORY OF RESONANCE ILLUSTRATED BY THE MOTION OF A PENDULUM—A course of lectures given at the Rice Institute, April 22, 23, and 24, 1931, by Ernest William Brown, D.Sc., F.R.S., Josiah W. Gibbs Professor of Mathematics in Yale University.

Introduction 1

I. The Equation $\frac{d^2x}{dt^2} + \kappa^2 \sin x = 0$ 11

Method of Approximation 18

The Generalized Equation $\frac{d^2x}{dt^2} + f'(x) = 0$ . . . 20

II. Solutions of $\frac{d^2x}{dt^2} + f'(x) = m\phi'(x, t)$ 21

III. Application to the Pendulum with an Oscillating Support 36

IV. Applications to the Mutual Influence of Two Pendulums 43

V. Solutions of $\frac{d^2x}{dt^2} + \kappa^2 x = m\phi'(x, t)$ 53

VI. The Effect of Friction 56

No. 2. APRIL, 1932

UNIVERSITY EXTENSION LECTURES ON GOETHE IN OBSERVANCE OF THE ONE HUNDREDTH ANNIVERSARY OF HIS DEATH, ON MARCH 22nd, 1832—A series of lay lectures delivered at the Rice Institute in the Winter of 1932.

I. Goethe and Philosophy, by Radoslav Andrea Tsanoff, Ph.D. (Cornell), Professor of Philosophy 61

II. Goethe and Literary Criticism, by Alan Dugald McKillop, Ph.D. (Harvard), Professor of English 84
III. The Correspondence and Conversations of Goethe, by Marcel Moraud, Agrégé de l'Université de France, Professor of French 109
IV. Goethe and Science, by Asa Crawford Chandler, Ph.D. (California), Professor of Biology . . . 129
V. Goethe and Shakespeare, by Stockton Axson, Litt.D. (Pittsburgh), L.H.D. (Wesleyan), LL.D. (Knox), Professor of English Literature . . . 148
VI. Goethe, Sage and Poet, by Heinrich Meyer, Ph.D. (Freiburg), Instructor in German 169

No. 3. JULY, 1932

A MATHEMATICAL THEORY OF AESTHETICS AND ITS APPLICATION TO POETRY AND MUSIC—A course of lectures, under the auspices of the Rice Institute Lectureship in Music, delivered in the Physics Amphitheatre, January 4, 5, and 6, 1932, by George David Birkhoff, Ph.D., Sc.D., Professor of Mathematics in Harvard University.

I. Relation of the Theory to Earlier Aesthetic Theories 189
II. The Musical Quality in Poetry 216
III. The Diatonic Chords 242
IV. Harmony 294
V. Melody 320

No. 4. OCTOBER, 1932

THE FIRE-BRINGER—A sermon preached to the seventeenth graduating class of the Rice Institute by the Reverend George Arthur Buttrick, D.D., Minister in the Madison Avenue Presbyterian Church of New York 343
SOME ANALOGIES FROM HISTORY—An address delivered at the seventeenth commencement convocation of the Rice Institute by Roscoe Pound, Ph.D., LL.M., LL.D., Dean of the Law School of Harvard University . 352